

Name:

Date:

Instructor's Name:

Assignment: SCIE211 Phase 3 Lab Report

Title: Sources of CO₂ Emissions

Instructions: You will need to write a 1-page lab report using the scientific method centered on the known phenomena of CO₂ emissions, related to the following question:

- Would you expect to see an increase or decrease in CO₂ emission in the data over the past 40 years? Why?

When your lab report is complete, post it in Submitted Assignment files.

Part I: In the Web site link given in the assignment description, you will see an interactive map of the world titled "GMD Measurement Locations." You can zoom in and out and move the map around within the window. In the map, choose 5 sites that are labeled with a star, which will have CO₂ concentrations. Follow the steps below to fill in the data table:

1. Click on a starred location. (One site will not have CO₂ concentrations.)
2. Once the starred location opens, on the right side of the screen, click on the pictured graph "Examples of Data" for CO₂.
3. Once the graph opens, make a note of the CO₂ concentrations from previous years to present day. Fill in the table below.
4. Repeat steps 1–3 for all other locations.
5. Use these results in your lab report to help you assess CO₂ concentration trends from 1990 to 2005.

Location Code	Name of City/Country	CO ₂ Emissions in 1990	CO ₂ Emissions in 2005

Part II: Write a 1-page lab report using the following scientific method sections:

- **Purpose**
 - State the purpose of the lab.
- **Introduction**

- This is an investigation of what is currently known about the question being asked. Use background information from credible references to write a short summary about concepts in the lab. List and cite references in APA style.
- **Hypothesis/Predicted Outcome**
 - A *hypothesis* is an educated guess. Based on what you have learned and written about in the Introduction, state what you expect to be the results of the lab procedures.
- **Methods**
 - Summarize the procedures that you used in the lab. The Methods section should also state clearly how data (numbers) were collected during the lab; this will be reported in the Results/Outcome section.
- **Results/Outcome**
 - Provide here any results or data that were generated while doing the lab procedure.
- **Discussion/Analysis**
 - In this section, state clearly whether you obtained the expected results, and if the outcome was as expected.
 - Note: You can use the lab data to help you discuss the results and what you learned.

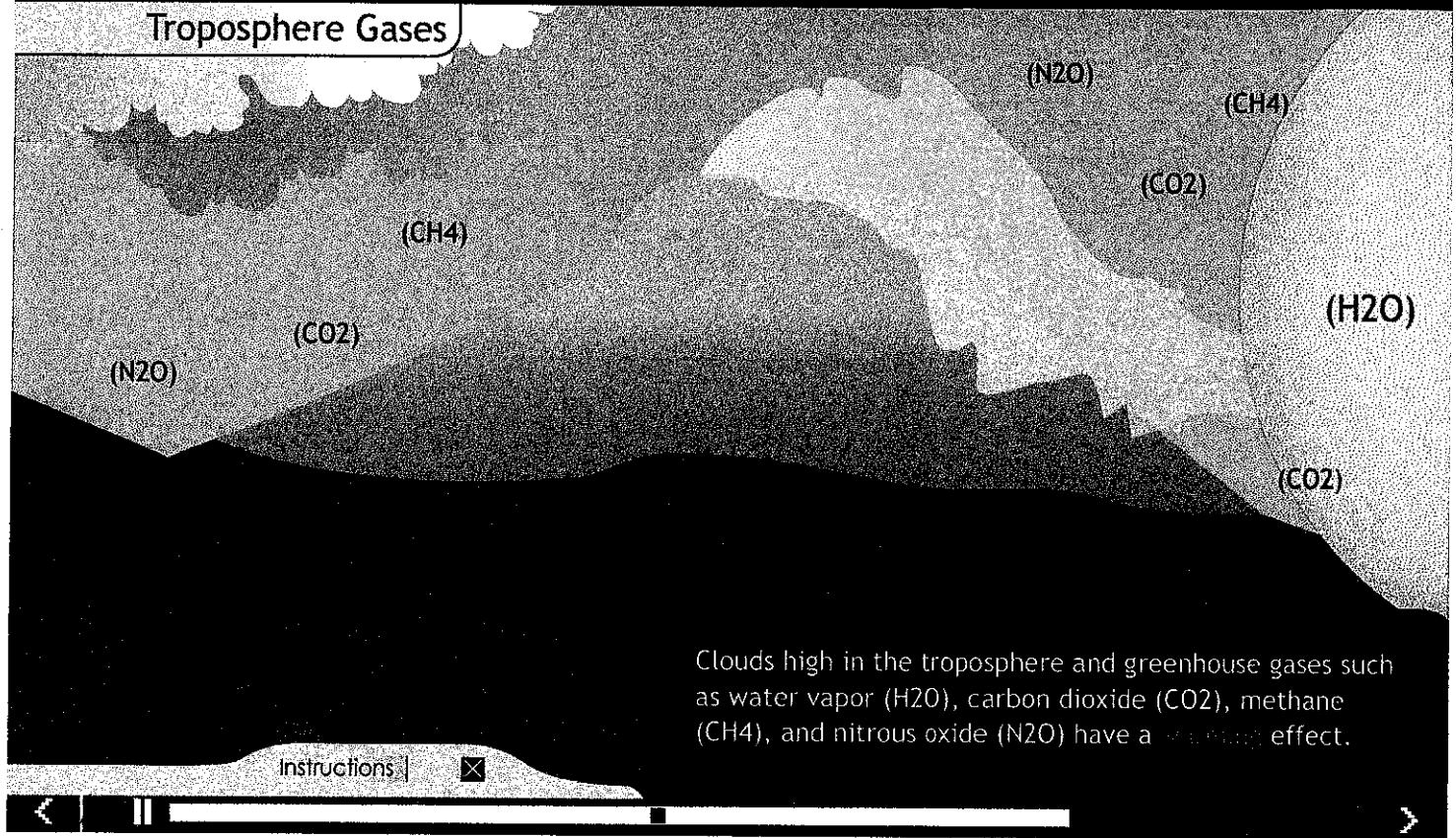
Provide references in APA format. This includes a reference list and in-text citations for references used in the Introduction section.

Give your paper a title and number, and identify each section as specified above. Although the hypothesis will be a 1-sentence answer, the other sections will need to be paragraphs to adequately explain your experiment.

When your lab report is complete, post it in Submitted Assignment files.

Sources of CO₂ Emissions

Troposphere Gases



Sources of CO₂ Emissions

Reference

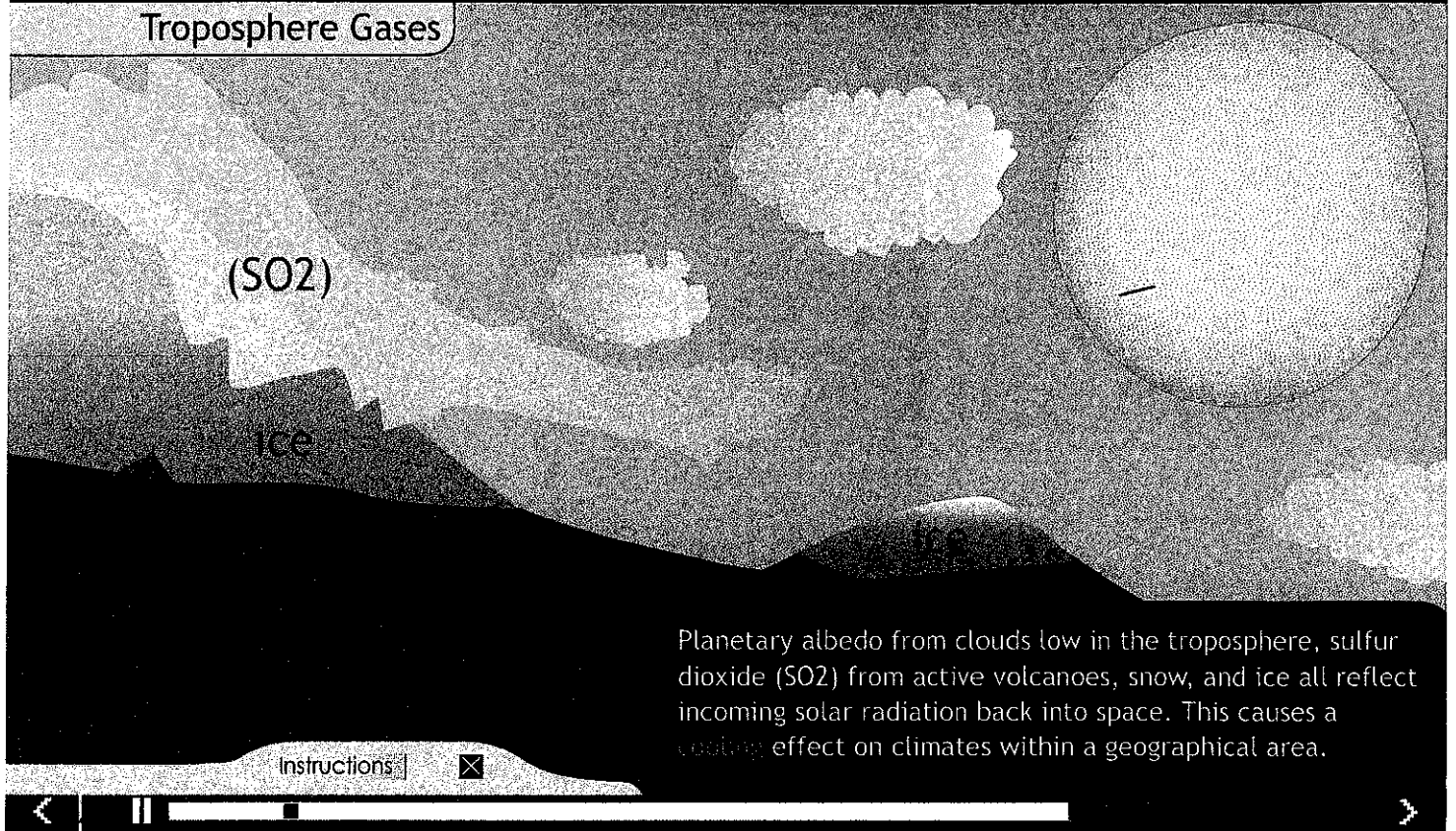
Earth system research laboratory: Global monitoring division. (n.d.). Retrieved from the U.S. Department of Commerce, National Oceanic and Atmospheric Administration Research Web site:
<http://www.esrl.noaa.gov/gmd/obop/>

Instructions



Sources of CO₂ Emissions

Troposphere Gases



Sources of CO₂ Emissions

NOAA's National Oceanic and Atmospheric Administration (NOAA) is the U.S. Department of Commerce's lead agency for monitoring and assessing the health of the Nation's oceans, coastal ecosystems and resources, including its estuaries. NOAA also works to understand and manage the human impact on the ocean and atmosphere, and to protect the Nation's marine resources from harmful effects of global climate change. NOAA's mission is to understand and predict the changes in the Earth's environment, from the atmosphere to the deep ocean, and to assess the effects of these changes on the Nation's coastal resources and the global environment. NOAA's mission is to understand and predict the changes in the Earth's environment, from the atmosphere to the deep ocean, and to assess the effects of these changes on the Nation's coastal resources and the global environment.



Instructions |



Sources of CO₂ Emissions

Strategies

Strategies and prediction models can be used to decrease or eliminate the effects that are associated with a particular pollutant. First, the cause of the pollution must be identified. Then, scientists can create innovative ways to reduce or eliminate its production.

Instructions |



Sources of CO₂ Emissions

Pollution

CO₂

CO₂

Pollution is a substance that produces a detrimental change in the environment because of its composition and abundance. Anthropogenic sources of CO₂ fit this description because of the perception that there is evidence of a positive correlation between the increases in anthropogenic CO₂ and increases in temperature. In turn, as temperatures increase, climates can change worldwide, unbalancing ecosystems across the globe.

Instructions



Sources of CO₂ Emissions

Theory on CO₂ Emissions

CH₄

CO₂

N₂O

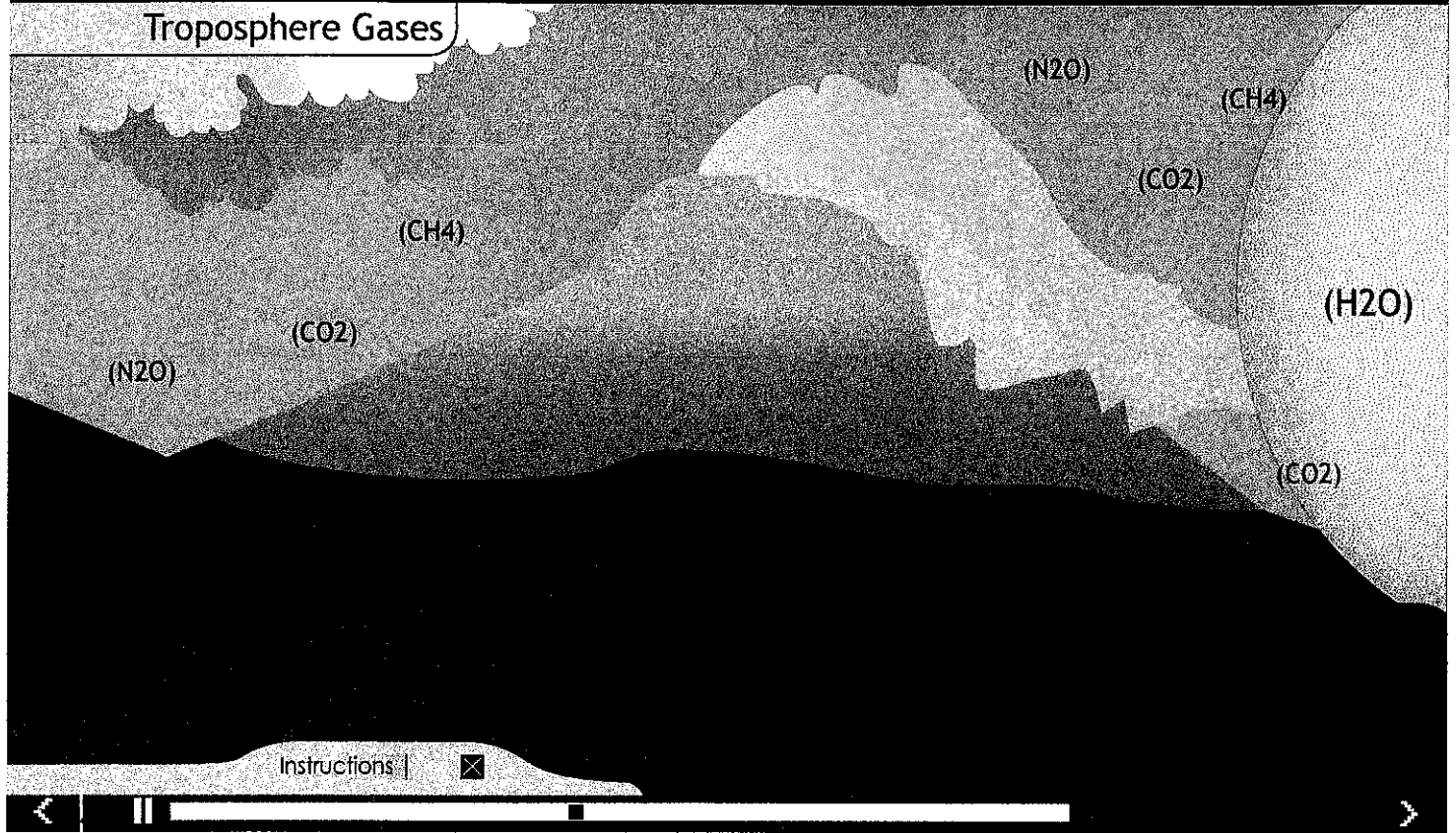
It has been hypothesized that anthropogenic effects (conditions caused by human activity) that are associated with industry, agriculture, and fossil fuel use have enhanced these warming processes by contributing greenhouse gases such as N₂O, CH₄, and CO₂ into the troposphere. As a result, CO₂ is believed to contribute the most to the atmospheric warming process.

Instructions

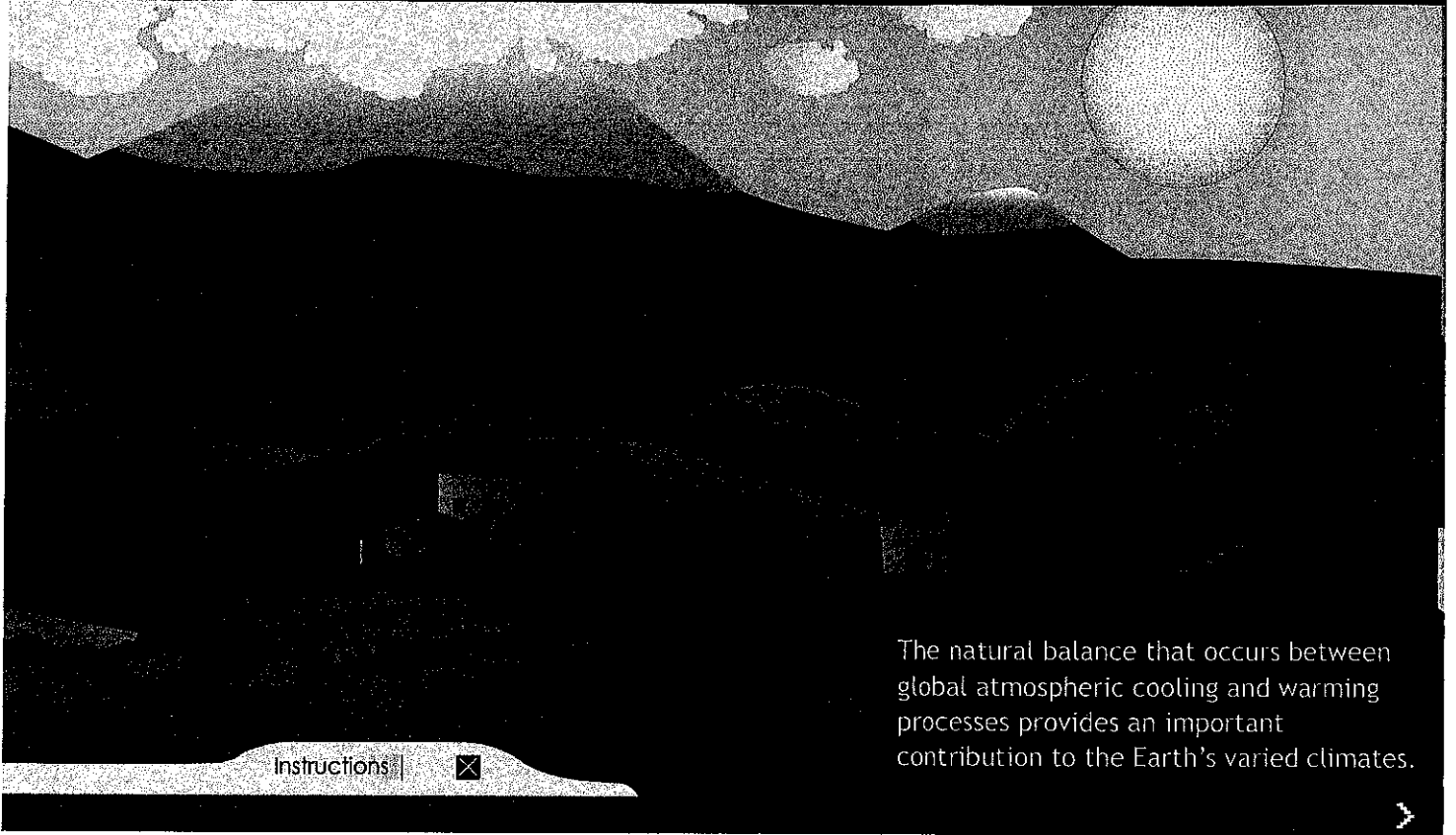
Click the forward arrow to continue.

Sources of CO₂ Emissions

Troposphere Gases



Sources of CO₂ Emissions



The natural balance that occurs between global atmospheric cooling and warming processes provides an important contribution to the Earth's varied climates.

Instructions

